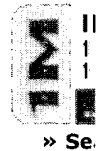


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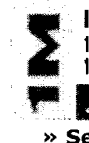
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## An analysis of the average message overhead in replicated control protocols

Saha, D. Rangarajan, S. Tripathi, S.K.

IBM Thomas J. Watson Res. Center, Yorktown Heights, NY, USA;

*This paper appears in: Parallel and Distributed Systems, IEEE Transactions on*

Publication Date: Oct. 1996

On page(s): 1026 - 1034

Volume: 7 , Issue: 10

ISSN: 1045-9219

Reference Cited: 12

CODEN: ITDSEO

Inspec Accession Number: 5416287

### Abstract:

Management of replicated data has received considerable attention in the last several years. Several replica control schemes have been proposed which work in the presence of node and communication link failures. However, this resiliency to failure incurs a performance penalty in terms of the communication overhead incurred. Though the performance of these schemes from the standpoint of availability of the system has been well addressed, the issue of **message** overhead has been limited to the worst case and best case **message** bounds. In this paper we derive expressions for computing the average **message** overhead of several well known replica control protocols and provide a comparative study of the different protocols with respect to average **message** overhead and system **availabilities**.

### Index Terms:

performance evaluation protocols replicated databases average message overhead message bounds communication link failures communication overhead message overhead node link failures performance penalty replica control protocols replicated data management system availabilities worst case

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## Application Message Interface

Jagannathan, V. Cleetus, J. Kannan, R. Toth, J. Saks, V.

*This paper appears in: Computers and Communications, 1992. Conference Proceedings., Eleventh Annual International Phoenix Conference on*

Meeting Date: 04/01/1992 - 04/03/1992

Publication Date: 1-3 April 1992

Location: Scottsdale, AZ USA

On page(s): 493 - 500

Reference Cited: 18

Inspec Accession Number: 4353369

### Abstract:

The Application Message Interface (AMI) is a software system designed and as part of the DARPA Initiative in Concurrent Engineering (DICE). The primary is to serve as a framework for integration in a dynamic, heterogeneous, and distributed environment. A distributed environment is characterized as dynamic client-server relationships need not be statically configured. By extensible it that the available services are subject to change. Thus, in a dynamic and extensible environment clients have new services available at run time. AMI is aimed at seamless integration in such an environment

### Index Terms:

computer communications software concurrent engineering distributed processing software packages Application Message Interface Concurrent Engineering DARPA Initiative relationships extensible distributed environment seamless integration software systems

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